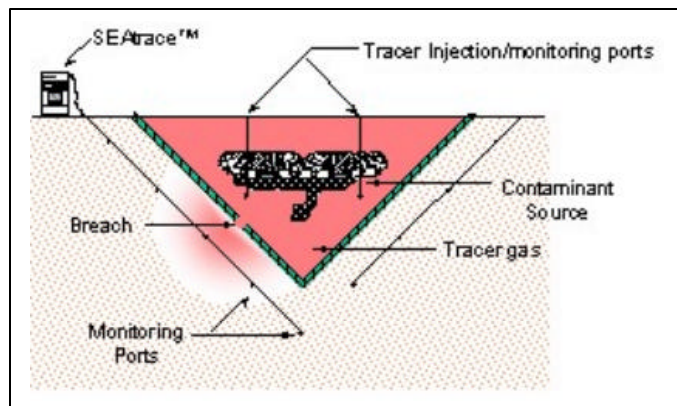


Subsurface Barrier Validation with the SEAttrace™ Monitoring System (TechID 308)

The SEAttrace™ Monitoring System is a gaseous tracer-based subsurface barrier verification system targeted for use on containment barrier structures located above the water table. It integrates real-time soil gas sample collection and analysis with a global optimization technique to locate and size flaws in barriers in real time. The system is self powered (solar panels with battery backup), thermally controlled, and meant to operate for months at a time without on-site user intervention. SEAttrace™ is a remotely accessible field system, using a cellular modem link for remote data download and modification of system operation. SF₆ is used as a tracer gas for testing barrier structure.



Developers:

- Science and Engineering Associates, Inc., Albuquerque, NM

Applications:

- Applicable at barrier installation sites and at existing barrier installations across the DOE sites

Benefits:

- Provides immediate data on the barrier integrity
- Capable of sizing and locating leaks
- Enables timely remediation of barrier flaws

Status:

- Jet-Grouted Barrier Demonstration at Dover AFB in 1997
- Viscous Liquid Barrier Permeation Grouting Demonstration at Brookhaven National Laboratory in 1997
- Full-scale subsurface barrier demonstration at Naval Air Station, Brunswick, ME, 1999
- Technology offered as commercial service in 1999
- Innovative Technology Summary Report Available (www.cmst.org)